Appendix G

Interconnection Equivalency Evaluation

Calpine Corporation has proposed an alternate Interconnection Plan to that shown in Figure 2-1 of the report. This Interconnection Plan is shown in Figure G1. Power flow studies were performed to confirm that this alternate interconnection plan produces equivalent system impacts as those of the interconnection plan studied in the System Impact Study.

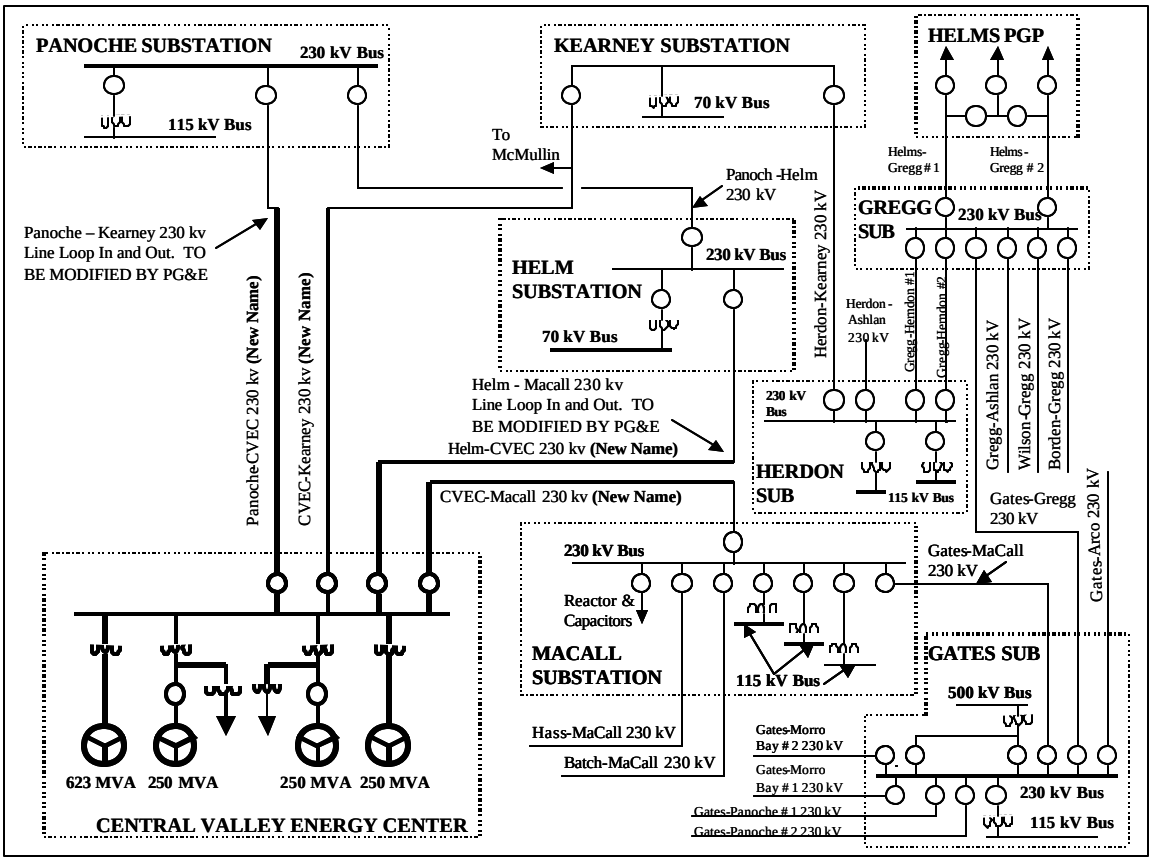

Figure G1: Alternate One-Line Diagram for CVEC Project

Equivalency was determined by comparing the power flow results of the before and after project base cases using the 2004 Summer Base Case. Table G1 shows the normal overloads.

Overloaded Component	Rating (Amps)	Pre-Project Loading		Post-Project Loading (Original)		Post-Project Loading (Alternate)	
		Amps	% Rating	Amps	% Rating	Amps	% Rating
Summer Peak Category A Normal Overloads							
Metcalf 230/115 kV Tx Bk #1	403 MVA	383 MVA	95%	411 MVA	102%	411 MVA	102%
Borden - Gregg 230 kV Circuit	675	516	76%	736	109%	736	109%
Agrico Jt – Kerman 70 kV Circuit	322	282	88%	336	105%	335	104%
Panoche – Helm #1 230 kV Circuit	742	94	13%	741	100%	737	99%

Table G1: Comparison of 2004 Summer Normal Overloads

In addition selected Category B contingencies were performed and the results

compared. Table G2 shows a comparison of the selected Category B Contingencies.

Contingency	Overloaded Component	Rating (Amps)	Pre-Project Loading		Post-Project Loading (Original)		Post Project Loading (Looped)	
			Amps	% Rating	Amps	% Rating	Amps	% Rating
Summer Peak Selected Category B Emergency Overloads								
Panoche – Helm #1 230 kV Line	Panoche – Helm #2 230 kV Line / Panoche – CVEC 230 kV Line	969	n/a	n/a	1105	114%	1105	114%
Panoche – Helm #2 230 kV Line / Panoche – CVEC 230 kV Line	Panoche – Helm #1 230 kV Line	850	n/a	n/a	1145	135%	1141	134%
Helm – Kearney 230 kV Line / CVEC – Kearney 230 kV Line	Panoche – Helm #1 230 kV Line	850	n/a	n/a	898	106%	894	105%
Helm – Kearney 230 kV Line / CVEC – Kearney 230 kV Line	Helm – Kerman 70 kV Line (Agrico Jct – Kerman)	379	n/a	n/a	473	125%	473	125%

Table G2: Comparison of 2004 Selected Category B Overloads

From these results, it was concluded that the two Interconnection Plans would have provide equivalent power flow results.